



No. 2087

No. 2088

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### Coefficient of friction tester for cards

The coefficient of friction on a paper surface is one measure that indicates the surface condition of the paper. This COF tester measures the coefficients of friction in the following mechanism. A 1-kg weight is placed on two overlapped sheets of the same specimen paper. While sliding the weight, coefficients of static and kinetic friction are read on a push-pull gauge. Optionally, a recorder can be installed to help read coefficients of static and kinetic friction more easily as well as to enable recording of changes of the kinetic friction force.

- Specimen size:** 180×80 mm
- Driving distance:** 50 mm, with automatic stop device
- Weight:** 1000 g, size 76×76 mm
- Driving speed:** 90 cm/min.
- Power source:** 100/110 VAC 50/60 Hz 1 A
- Outer dimensions:** 560×350×300 mm
- Instrument weight:** 42 kg

## No. 2088

### Static coefficient of friction tester

The coefficient of friction on paper surface is one characteristic that provides a measurement for evaluating the paper surface condition. This tester helps easy measurement of the coefficient of static friction. It works as follows. A specimen is attached onto each of the inclined driving plate and the traveling weight. As the inclined driving plate gradually increases the inclination, the weight travels at a point where the inclination exceeds the limit of the friction range of the specimen. At that point, the sensor detects the motion and stops the inclined plate immediately. The coefficient of static friction is calculated from that inclination. As the scale markings represent values of the inclination ( $\theta$ ) converted into  $\tan \theta$ , you can directly read the value of the coefficient of static friction ( $\mu$ ).

- Measurement range:**
  - scale of static friction coefficient 0 to 1.500 (minimum increment 0.005),
  - sliding angle scale 0 to 55° (minimum increment 0.5°)
- Inclined plate speed:** 8 mm/sec. in measurement,  
16 mm/sec. in return
- Specimen size:** specimen A 120×250 mm (maximum),  
specimen B 60×150 mm (contact surface)
- Traveling weight:** total 1000 g
- Referential standards:** JIS P-8147-1994, TAPPI T-815om-01
- Power source:** 100/110 VAC 50/60 Hz 1 A
- Outer dimensions:** 470×290×410 mm
- Instrument weight:** 16 kg

## No. 2089

### High-speed inter-paper friction coefficient tester

Along with the drastic development of the information-oriented society, diversification of paper types and usages is also increasing. Operating speeds of copiers, facsimile machines and other OA equipment are increasing remarkably. Accordingly, there are greater calls for higher quality, chemical neutrality, lower costs and higher price stability for paper that is fed into such equipment. This tester will surely contribute to investigation into customer claims, timely handling of production control issues, and even development of new products including both machines and new types of paper by enabling laboratory measurement of the coefficient of inter-sheet friction of paper used in high-speed applications.

This tester works in the following mechanism. Sheets of paper are piled on the specimen stage. The top sheet is fixed onto a clamp connected to a load cell, and then a desired weight is placed on the pile. All the sheets beneath the top one are fixed with a clamp on the drive side. While moving the specimen stage, the friction force generated between the sheets is detected in the load cell and resulting data are recorded.

**Specimen size:** A3, A4, B4, B5

**Dimensions of specimen table:** 420×420 mm

**Thickness of specimen layers:** up to 25 mm

**Test speed:** 100 to 1050 mm/sec.

**Return speed:** 15 mm/sec.

**Friction force detection:** load cell (capacity 50 N)

**Loading weights:** 100 to 2000 g (combination of five weights)

**Power source:** three-phase 200/220 VAC 50/60 Hz 10 A

**Outer dimensions:** 1100×730×500 mm

**Instrument weight:** about 240 kg



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## No. 2090

### ISO friction coefficient tester

The friction coefficient of paper is one of important indices that express the paper surface condition, related to touch and ease of work of paper. This tester is based on the measurement method of friction coefficient newly specified by ISO. The friction of paper sheets applied to the moving table and weight, is measured three times, to determine both static and dynamic friction coefficients. An initial torque is applied very slowly so that it takes 0.5 to 5 seconds to reach the peak of static friction. Unlike the conventional rapid measurement of static friction, this method measures friction between fibers in paper surfaces.

**Specimen size:** 200×70mm

**Driving distance:** 70 mm,

**Weight:** 800±5 g, size 60×60 mm

**Weight movement:** automatic vertical movement

**Driving speed:** 20 mm/sec. (optional 5 to 100 mm/sec.)

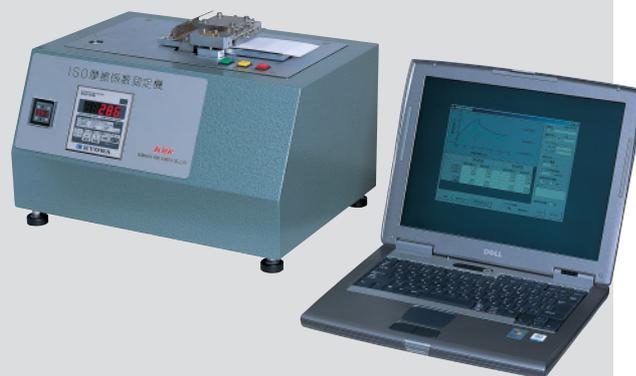
**Referential standard:** ISO15359-1999

**Power source:** 100/110 VAC 50/60 Hz 2 A

**Compressed air:** 0.4 MPa is necessary

**Outer dimensions:** 450×370×310 mm

**Instrument weight:** 20 kg



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